

PATENT ABSTRACTS OF JAPAN

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(71) Applicant: **FUNAI ELECTRIC CO LTD**

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(72) Inventor: **KANEKO SHIGERU**

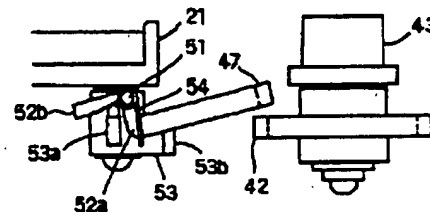
(54) **PRINTER**

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(57) Abstract

PROBLEM TO BE SOLVED: To prevent the turbulence of a printed image while omitting a driving source.

SOLUTION: When a tray 21 is driven forward or backward reciprocatingly by a wire driving mechanism on the upper face of a frame and a gear 42 supported on the frame by a movable rack 47 set on the right side of the tray 21 is rotated to move slidingly a slide head gradually to the right side, contact protrusions formed on the front and rear end positions of the tray 21 are brought into contact with an engaging arm 53b of a lock pin 53 to rotate the movable rack 47 within the given range. The movable rack 47 is not in mesh with the gear 42 at the time of moving backward and printing, and can be in mesh with only at the time of moving forward and printing, and the tray 21 is moved smoothly during the printing to prevent the turbulence of a printed image by the arrangement, and as a retracting direction is along meshed faces, the repulsive force of the movable rack 47 and the gear 42 can be supported by a fixed mechanism to simplify the constitution.



Partial Translation of Reference 1 (JP 11-5340 A)

[Claim 1]

A printer device comprising:

a frame;

a paper tray which is supported such that the paper tray can be reciprocated with reference to the frame and which has an upper surface on which a sheet of predetermined printing paper can be placed;

a slide head which is supported such that the slide head can slidably operate in a direction almost perpendicular to the paper tray with reference to the frame, which is brought into contact with the sheet of printing paper placed on the paper tray, and which scans the printing paper with the slide operation and the reciprocal operation of the paper tray to perform printing;

a head slide mechanism which has a rack arranged on the paper tray side and a gear arranged on the frame side and in which the rack and the gear are meshed with each other in a predetermined range during the reciprocal operation of the paper tray to generate a drive force to slidably move the slide head; and

an evacuating mechanism which shifts a relative positional relation between the rack and the gear along a meshing surface in moving of the paper tray during a print operation performed by slide head to make it impossible to mesh the rack and the gear with each other.

Excerpt taken from the specification:

[0021] The frame 10 includes side walls 13 formed upright from the left and right edges of the frame 10 upward, and a slide head 30 is supported to straddle the upper side of the tray 21. The slide head 30 includes a thermal head 31 having a width which is approximately 1/3 the width of the tray 21. A vertical drive motor 32 makes it possible to vertically move the thermal head 31. When the thermal head 31 is moved upward, the thermal head 31 is separated from the printing paper on the tray 21. When the thermal head 31 is moved downward, the thermal head 31 is brought into contact with the printing paper. In order to support the slide head 30 such that the slide head 30 can be horizontally reciprocated, two beams 33 and 34 are supported between the side walls 13. The beam 33 penetrates a front side of the slide head 30, and the distal end portions of split-end arms 35 projecting from the slide head 30 to the rear of the slide head 30 are fitted in the beam 34.

[0022] In the embodiment, the beams 33 and 34 are used to slide the slide head 30 in a direction perpendicular to the moving direction of the tray 21. The beams 33 and 34 can be appropriately changed such that the beams 33 and 34 are constituted by rail-like members. Furthermore, the slide head 30 need not be directly supported on the frame 10. The slide head 30 may be arranged such that the slide head 30 slidably moves with reference to the case 11, and the slide head 30 may move in a predetermined direction when the frame 10 is fitted in the case 11. In the embodiment, although the thermal head 31 is used, a predetermined head may be used depending on printing methods. The thermal head 31 can be appropriately modified such that the thermal head 31 is vertically moved through a solenoid or the like.

Reference (Excerpt) (1/2)

(7)

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定構造で支持でき、構成を簡易にすることができる。

【図面の簡単な説明】

【図1】本発明の一実施形態にかかるプリンタ装置の概略平面図である。

【図2】同プリンタ装置の概略側面図である。

【図3】同プリンタ装置においてスライドヘッドが移動中の状態を示す概略平面図である。

【図4】同プリンタ装置においてスライドヘッドが初期位置へ戻される状態を示す概略平面図である。

【図5】可動ラックと歯車とが噛合している状態の逃避機構部分の拡大断面図である。

【図6】可動ラックと歯車とが噛合している状態の逃避機構部分の概略平面図である。

【図7】可動ラックと歯車とが噛合不能な状態の逃避機構部分の拡大断面図である。

【図8】可動ラックと歯車とが噛合不能な状態の逃避機構部分の概略平面図である。

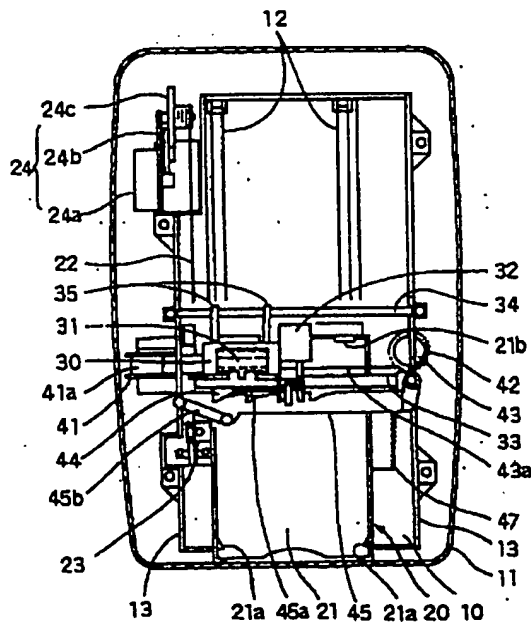
【図9】当接突起の配置位置とロックピンの当接状態を

示す説明図である。

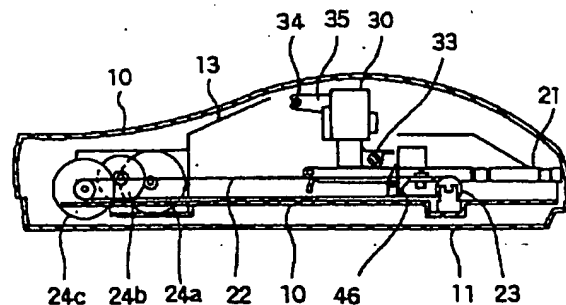
【符号の説明】

- 10…フレーム
- 20…用紙トレイ
- 30…スライドヘッド
- 41…巻き取り機構
- 42…歯車
- 43…巻き取りリール
- 44…係合突起
- 45…ロック片
- 46…解除レバー
- 47…可動ラック
- 51…軸芯
- 52a…第一の支持壁
- 52b…第二の支持壁
- 53…ロックピン
- 54…スプリング
- 55, 56…当接突起

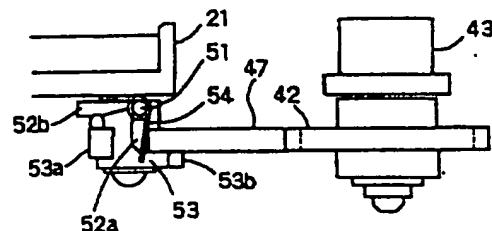
【図1】



【図2】



【図5】

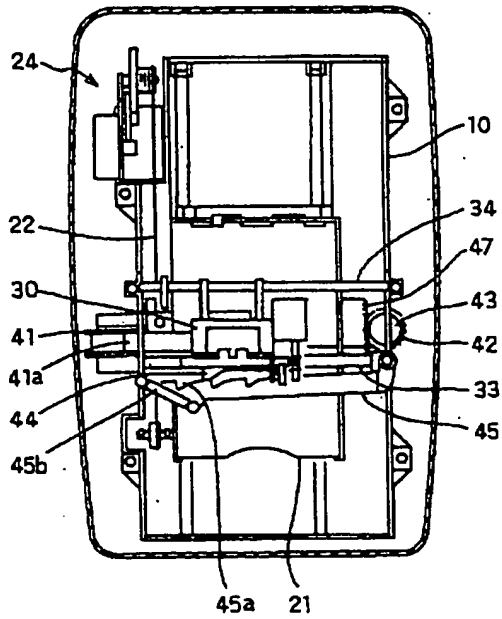


Reference 1 (Excerpt)($\frac{3}{2}$)

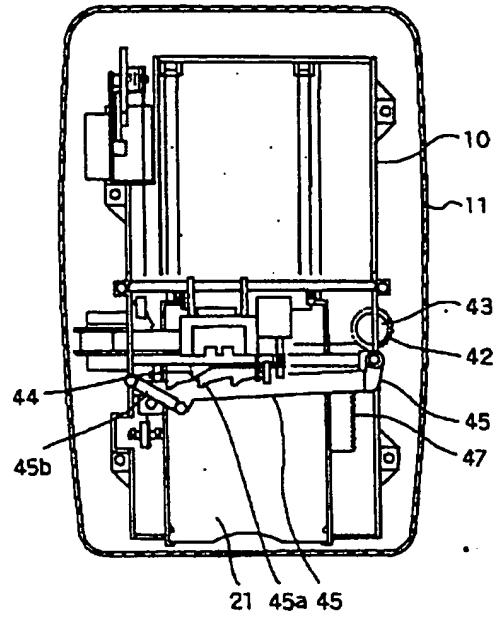
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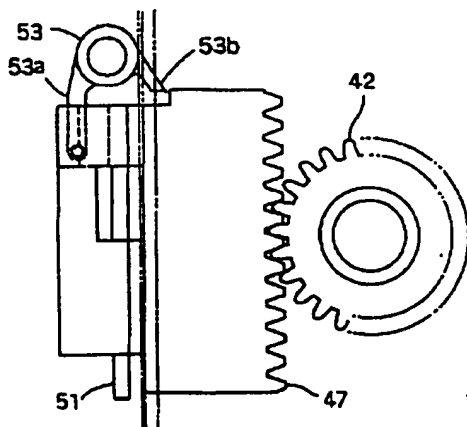
【図3】



【図4】



【図6】



【図7】

